RESPONSES

Regional Board staff met with representative of the soil thermalization remediation companies (American Remedial Technologies, Inc. Thermal Remedial Solutions, Inc.; both of which have waste discharge requirements before the Board at the March 4, 2004 meeting) and Waste Management (an interested party) on February 18, 2004 to receive comments and initiate responses. Subsequently comments were also received from two additional interested parties; 1) V. John White Associates and 2) The Urban Environmental Affairs Council. Because some comments address one or both of the tentative waste discharge requirements for American Remedial Technologies, Inc. and Thermal Remedial Solutions, Inc. all comments and responses have been included herein to assure completeness.

Note: For responses resulting in a modification the tentative Order deletions are shown in strikeout format and additions are shown in bold format.

COMMENTS FROM AMERICAN REMEDIAL TECHNOLOGIES, INC.:

Comment No. 1:

> Prohibition A.2 restricts the treatment of waste oil at the facility. The classification of waste oil under title 22 of the California Code of Regulations has changed since the adoption of ART's existing waste discharge requirements. Do the tentative waste discharge requirements cite a comparable classification in revised title 22 regulations.

Response:

> The tentative waste discharge requirement cite the classification of waste oil in current regulations [i.e. title 22 CCR, division 4, article 4, § 66261.126, appendix X (b)]. No change to the tentative waste discharge requirements is required.

Comment No. 2:

> The site description in Finding No. 5 should be revised as follows to more accurately reflect existing conditions:
>
> *"ART's soil treatment operations are located within* ***five*** ~~*four*~~ *existing buildings, including a small receiving office, a 29,700 ft^2 untreated soil storage building,* ***a 19,000 ft^2 untreated soil storage building,*** *a 29,700 ft^2 building for treated soil, and a 11,370 ft^2 administrative office building (see Figure 2, attached). The untreated soil storage building is lined with a sealed, non-porous concrete floor."*

Response:

Accepted as submitted.

Comment No. 3:

Prohibition A.12 is general and does not provide specific standards for toxicity.

Response:

We concur with the comment. The prohibition has been modified to incorporate standards contained in title 22 of the California Code of Regulations for hazardous wastes through citation of the appropriate section relating to toxicity. The revised prohibition is as follows:

"Thermally treated soils that meet the criteria for reuse off-site shall not contain any substances in concentrations toxic to human, animal, plant, or aquatic life ***pursuant to 22 CCR § 66261.24****."*

COMMENTS FROM THERMAL REMEDIATION SOLUTIONS:

Comment No. 4:

Paragraph 6 of the recitals and Section E of the Tentative WDR unnecessarily limit the disposal of treated soils to the ALR Landfill. While this has been the practice of TRS in the past, there is no reason for this limitation from the perspective of a WDR. As with the tentative WDR for American Remedial Technologies ("ART"), provided it complies with applicable requirements, TRS should be allowed under the WDR to send treated soils off-site for uses such as backfill and roadbase.

Response:

We concur with the comment. All reuse disposal options included in ART's WDRs will be included in TRS's requirements as indicated below. No modifications are required for ART's tentative waste discharge requirements.

1. Limits for treated soils can vary dependant on the disposal/reuse options described below. These treatment limits are for thermally treated soils only and no mixing or diluting of soils is allowed to achieve acceptable disposal/reuse results.

a. In order for thermally treated soils to be reused for construction backfill, ART shall certify that they meet the following limits:

Parameter	***Limit***	***Units***

TRPH	***500***	***mg/Kg***
TPH as diesel	***10***	***mg/Kg***
TPH as gasoline	***10***	***mg/Kg***

Moreover, for any constituent required to be monitored by this Order for which a maximum contaminant level (MCL) has been established by the United States Environmental Protection Agency (USEPA) or the State of California Department of Health Services, the total concentration of that contaminant in soil shall be no greater than the MCL for that constituent in drinking water as determined by appropriate USEPA testing methods and using USEPA Toxic Constituent Leaching Procedure (TCLP) or California Waste Extraction Test (WET) extraction procedures with a leaching agent appropriate for the contaminants at frequencies specified in the attached Monitoring and Reporting Program (M&RP) No. CI-7597 (incorporated herein by reference).

b. ***In order for thermally treated soils to be reused for road base, ART shall certify that the treated soils meet cleanup limits established by the Regional Board (Interim Site Assessment and Cleanup Guidebook, May 1996) for petroleum impacted sites. Summary Table 4.1 from the Guidebook is incorporated by reference as Attachment 1. Minimum cleanup limits shall assume that the distance above groundwater at the disposal facility is less than 20 feet and that the facility is underlain by gravel. Minimum cleanup limits for PHCSs are as follows:***

Parameter	***Limit***	***Units***
TRPH	***1,000***	***mg/Kg***
TPH as diesel	***100***	***mg/Kg***
TPH as gasoline	***100***	***mg/Kg***

Similarly, for any constituent required to be monitored by this Order for which an MCL has been established, the total concentration of that contaminant in soil shall be no greater than the MCL for that constituent in drinking water as determined by appropriate USEPA methods and using TCLP or WET extraction procedures with a leaching agent appropriate for the contaminants.

c. ***A third option for thermally treated soils is disposal at an inert landfill or Class III landfill permitted by the Regional Board. For disposal at an inert landfill the treated soils shall meet the same limits as for reuse for road base as described in Provision No. E.1.b, above. For disposal at a Class III landfill the treated soils shall meet the same limits for petroleum hydrocarbons as described in Provision No. E.1.b and be at non-hazardous levels for any other contaminants.***

Comment No. 5:

Paragraph 11, page 1, requires that any surface water runoff from the untreated soil storage area must be collected and treated on-site at ALR's wastewater treatment plant. This requirement should be clarified to provide that runoff which is tested and shown not to contain detectable concentrations of contaminants are not required to be treated. In such instances, treatment would be an unnecessary expense and burden and would not be necessary to prevent a discharge.

In addition, TRS notes that ART's tentative WDR is inconsistent with the TRS Tentative WDR. Among other things, ART's tentative WDR does not have provisions addressing surface water runoff or storm water discharges (see, e.g., TRS Tentative WDR, paragraphs 11, 14 and 15 and Section D, paragraph 2). ART's WDR should have the same provisions.

Response:

We concur with the comment. With regard to surface water provisions in TRS's tentative waste discharge requirements, the finding has been restated as provision C.5 and has been modified to read as follows:

"***Any surface runoff water from the untreated soil storage area is to be collected and may be reused on untreated soils stockpiled on approved soil receiving areas at the facility or treated onsite at ALRs wastewater treatment plant. Any other reuse is subject to WDRs."***

With regard to the surface water provisions in ART's tentative waste discharge requirements, because ART's operation is fully enclosed it is not subject to the same requirements as TRS's operation. Nonetheless, ART is enrolling in the general stormwater permit and we agree that ART's tentative waste discharge requirements should reflect surface water quality requirements comparable to TRS's tentative waste discharge requirements.

The following finding has been added to ART's tentative waste discharge requirements:

"Pursuant to section 402 (p) of the Clean Water Act (33 USC 1342 (p)) and 40 Code of Federal Regulations parts 122, 123, and 124, the State Water Resources Control Board (State Board) adopted a National Pollutant Discharge Elimination System (NPDES) General Permit to regulate storm water discharges associated with industrial activities in California (State Board Order 97-03-DWQ)."

The following provisions have been added to ART's tentative waste discharge requirements:

"PHCSs shall not be accepted at the facility during rainfall which causes runoff."

"The facility shall be enrolled under general Order 97-03-DWQ. ART shall develop a Storm Water Pollution Prevention Plan (SWPPP) for the facility as required by this general Order. Discharge of materials other than stormwater and non-stormwater discharges authorized through enrollment in this general Order, either directly or indirectly, to waters of the State are prohibited."

"***Any surface runoff water from the untreated soil storage area is to be collected and may be reused on untreated soils stockpiled on the lined pad area only at the facility. Any other reuse is subject to WDRs."***

Comment No. 6:

TRS does not believe that there should be limits to the hydrocarbon contamination accepted at its facility as indicated in Section B, paragraph 2 (page 4). From a waste discharge perspective there is not need for such limits. The Tentative WDRS already prohibit the acceptance of petroleum hydrocarbon contaminated soils ("PHCSs") that contain free liquid and/or hazardous waste (See, e.g., Section A, paragraphs 1 and 3) and there are other measures in place that affect soil contaminant concentrations, such as from the South Coast Air Quality Management District (See, e.g., Section B, paragraph 3 and Section D, paragraph 1) and health and safety considerations (See, e.g., Section A, paragraph 9).

Response:

We concur with the comment. The relevant limits for the materials processing are effectively unchanged: 1) only nonhazardous materials can be accepted for treatment, 2) specific treatment limits are established for the reuse/disposal of the treated materials. Provision B.2, indicated below, was eliminated from the tentative waste discharge requirements for ART and TRS.

~~*2. Upper end levels of hydrocarbon contamination acceptable for treatment are as follows:*~~

~~*Gasoline, jet fuel, or similar*~~	~~*5,000 ppm*~~	~~*0.50% by weight*~~
~~*Kerosene, diesel, or similar*~~	~~*20,000 ppm*~~	~~*2.00% by weight*~~
~~*Lubricants, or similar*~~	~~*30,000 ppm*~~	~~*3.00% by weight*~~
~~*Crude oils, or similar*~~	~~*50,000 ppm*~~	~~*5.00% by weight*~~

Comment No. 7:

TRS seeks clarification on several additional issues associated with the Tentative WDR.

TRS notes that the ART tentative WDR permits it to conduct nonhazardous soil stabilization/fixation to recycle hydrocarbon and/or metal impacted soils (See, e.g.,

Recitals, paragraph 6 and Section E, paragraph 3). While TRS has no immediate plans to perform such treatment, it would also seek to have the same option. However, it has a number of questions concerning this allowance. Section A, paragraph 1 prohibits the acceptance of hazardous wastes as defined by the California Code of Regulations, Title 22, Section 66261.3, et seq. Since metals containing soils need not be treated unless it constitutes a hazardous waste under Title 22, it is unclear what other metal-containing soil would warrant stabilization. Please also clarify whether the Regional Board requires verification testing for metals in the soil accepted at the facility if the facility performs stabilization.

Response:

See comments 10 through 12 below.

Comment No. 8:

TRS understands that the Regional Board has granted ART permission to stockpile soil at its new facility, which at this point does not have an adopted WDR. TRS seeks clarification as to the circumstances and procedure for which the Regional Board will permit the commercial stockpiling of contaminated soils without a WDR. TRS may also want to stockpile soils outside of its WDR as this could increase its capacity and provide it greater flexibility to operate. However, it does not want to run afoul of the Regional Board's requirements and wants to ensure that the Regional Board will act consistently. As such, TRS seeks written clarification with respect to the following questions to help ensure that it remains in compliance with the Regional Board's directives: what is the review and approval process, if any, required by the Regional Board to allow commercial stockpile of contaminated soil without a WDR? If no WDR is required, does the Regional Board have any soil sampling requirements for the waste? Are there any limits or requirements as to what and how much can be stockpiled? When can the soil be accepted? Are there any monitoring requirements? Where can the stockpiles be located? What can be done with the stockpiles? Are there any closure requirements when the stockpiling is ceased? What triggers the Tentative WDRs that does not exist with respect to stockpiling?

Response:

ART is currently accepting soils for treatment at its relocated facility. While true that waste discharge requirements are not finalized for ART's relocated operation, it is incorrect to construe that the stockpiling process is being conducted outside the control of regulatory agencies. With regard water quality concerns, ART submitted a Report of Waste Discharge (ROWD) to the Regional Board for the proposed relocation of its facility in compliance with requirements of the California Water Code (CWC). In effect, the ROWD is the controlling environmental document while ART's waste discharge requirements are being finalized. Any threats to surface or groundwater quality posed by

the ongoing stockpiling of soils at ART's relocated facility would be a violation of the CWC and could be enforced upon by the Regional Board. Thus, stockpiling practices employed by ART and TRS for their operations shall continue to comply with their facilities ROWD and/or waste discharge requirements.

No modification is required for the tentative waste discharge requirements pursuant to this comment.

Comment No. 9:

TRS is perplexed and uncertain as to why it is required to undertake the additional expense and burden of Vadose Zone monitoring and have a liner (See Amended Monitoring and Reporting Program Nos. CI 7598, Section B, paragraph 1, page T-1), while ART does not have such requirements. The lack of vadose zone monitoring for a waste treatment facility appears to be unprecedented. Please provide the Regional Board's criteria for determining when it requires vadose zone monitoring, what, if any, level of engineering analysis or other evidence may satisfy such criteria to avoid vadose zone monitoring, and what other treatment facilities have been granted WDRs without vadose zone monitoring being required.

Response:

After approximately 9 years of vadose monitoring (i.e. approximately 70 monitoring events) at the ART and TRS facilities with no discernable threat to groundwater quality via a vadose pathway, vadose zone monitoring will no longer be required at either facility. Vadose zone monitoring requirements will be eliminated form the TRS tentative waste discharge requirements as follow:

Monitoring and Reporting Item No B.1.

~~*1. Groundwater/Vadose Zone Monitoring*~~

~~*TRS shall maintain and operate a vadose zone monitoring system, as described in Order No. R4-2004-XXXX, for the detection of organic vapors. The system shall be tested monthly for the presence of organic vapors and the results included in the quarterly monitoring reports.*~~

COMMENTS FROM WASTE MANAGEMENT:

Comment No. 10:

Finding 6 (page 1). This paragraph states "ART" will also conduct non-hazardous Soil Stabilization/fixation to recycle hydrocarbon and/or metal impacted soil. The soil will be

stabilized to reduce metals solubility while creating a low-to high Strength asphalt-concrete product suitable for use as asphalt base material."

This paragraph implies that ART will be using stabilization/fixation to treat hydrocarbon and/or metal impacted soils. This type of treatment is not discussed elsewhere in the WDR nor is it addressed in the monitoring and reporting requirements of the WDR. Based on discussions with Board staff and representatives of ART, the intent of this statement was to allow ART to add amendments to already treated soils to provide customers with a more usable soil product. The adding of soil amendments should not be expressed as a treatment option. We would request that this portion of paragraph 6 be deleted (bottom of page one, and first sentence of page 2).

Response:

Pursuant to discussions at the February 18, 2004 meeting between representatives of the Regional Board, ART, TRS and Waste Management the proposed stabilization/fixation to treat hydrocarbon and/or metal impacted soils was clarified as an amendment to processed hydrocarbon and/or metal impacted soils to produce a more commercially viable end product.

Finding 6 of the tentative waste discharge requirements will be revised as indicated below with modified requirements as discussed in comments 11 and 12 to assure that there is no increased health or environmental risk posed by the amendment process.

6. *ART uses thermal desorption technology to treat incoming PHCSs to levels that are protective of surface and ground waters. The thermal desorption process involves heating the PHCSs to temperatures necessary to remove the adsorbed petroleum hydrocarbons, thus reducing their concentrations to acceptable regulatory levels.* ***Requirements are included in this Order to allow amending of processed soils in order to enhance the reuse properties of the treated soils.*** ~~*ART will also conduct non-hazardous soil stabilization/fixation to recycle hydrocarbon and/or metal impacted soils. The soils will be stabilized to reduce metals solubility while creating a low- to high-strength asphalt-concrete product suitable for use as asphalt base material.*~~

Comment No. 11:

Section E.3 page 7. This paragraph should be revised to reflect the addition of soil amendments, not treatment of soils by use of stabilization/fixation.

Response:

The tentative waste discharge requirements will be revised pursuant to the discussion in comment 10 above as indicated below:

3. *ART shall certify that* ***any processed*** ~~*stabilized/fixated*~~ *materials that are* ***amended*** ~~*recycled as an asphaltic product*~~ *pursuant to this Order* ***meet the reuse requirements of applicable Provisions Nos. E.1.a or E.1.b, above.*** ~~*are returned to the property and/or remediation project from which the contaminated soils originated and that the asphaltic product is reused pursuant to an approved engineering plan.*~~ ***Moreover, ART shall implement a routine sampling and testing program to generate analytical information for the amended soils to confirm that they do not pose greater risk to health or water quality than soils that have not been amended. Sampling shall be random in nature and testing must be at a frequency of a minimum of 5% of the total of amended soils and treated for those monitoring parameters included in this Order or any other parameters deemed appropriate by the Regional Board Executive Officer.***

Comment No. 12:

Monitoring and Reporting Program. A provision for reporting use of soil amendments should be added to the M&RP to detail the following: amendments used, quantity, soil lot amended, and location of end use.

Response:

The monitoring and reporting program will be revised pursuant to the discussion in comment 10 above as indicated below:

Addition of requirements for monitoring of amended soils to section B (Site Monitoring And Monitoring Reports) as follows:

Sampling of amended soils shall be conducted in a random manner and testing must be at a frequency of a minimum of 5% of the total of amended soils and those monitoring parameters included in this Order or any other parameters deemed appropriate by the Regional Board Executive Officer.

Addition of reporting requirements for amended soils in quarterly reports described in section B (Site Monitoring and Monitoring Reports) as follows:

Quarterly monitoring reports shall contain the following:

Relevant information for amended soils, including the following:

- ***list all amendments used,***
- ***tabulate the quantities of amendments used,***

- ***identify all soil lots amended,***
- ***report the location(s) where the amended soils were reuse.***

Comment No. 13:

Finding 6, page 1. This paragraph states "All soils treated at TRS's facility by their thermal desorption process are used as daily cover at the ALR Landfill." This should be modified to read …. are used as cover and fill at the ALR Landfill. If the TRS WDR is modified to allow for off site options this sentence could be deleted.

Response:

We concur with the comment. The last sentence of Finding 6 has been deleted as follows:

"TRS uses thermal desorption technology to treat incoming PHCSs to levels that are protective of surface and ground waters. The thermal desorption process involves heating the PHCSs to temperatures necessary to remove the adsorbed petroleum hydrocarbons, thus reducing their concentrations to acceptable regulatory levels. ~~*All soils treated at TRS's facility by their thermal desorption process are used as daily cover at the ALR Landfill.*~~*"*

COMMENTS FROM V. JOHN WHITE ASSOCIATES:

Comment No. 14:

To the best of my knowledge there is no lab report on soils the company has taken into either their old or new facility, and I understand that the Board has not required the company to submit quarterly reports on a regular basis. In fact, I am disturbed at the notion that the company has been allowed to self-monitor and retain records on their premises without making these documents publicly available. If this is not the case, we would like to have access to these documents for review. If true, this would mean that the Board has no record of what ART has been doing with contaminated waste that is potentially highly toxic, or the levels and type of contamination that these soils may contain.

Response:

On January 7, 1997, ART requested that laboratory backup materials required to be reported pursuant to M&RP No. CI-7597 be stored at the Facility and be made available for RWQCB staff to review as necessary. Regional Board staff subsequently informally approved this request. In a letter from the Regional Board to ART dated September 25, 2003 we informed ART that we were unaware of any conditions that would merit this

special privilege at this time and required submittal of copies of all laboratory backup materials not previously submitted after January 7, 1997 to this Regional Board and that subsequent monitoring reports submitted for the Facility shall include all laboratory backup materials. All laboratory backup materials is required to be submitted to the Regional Board by February 27, 2004 and should be available for public review at our offices at that time.

No modification is required for the tentative waste discharge requirements pursuant to this comment.

Comment No. 15:

We would also like to have access to the records of where contaminated soils have been sent post-treatment or lab reports showing where the treated soil is being placed in and around the surrounding community. Is it being dumped on school sites? Low income or minority neighborhoods? I'm deeply concerned about the prospect that those least able to help themselves – children and seniors – are being unknowingly subjected to environmental health hazards – and think you should too.

Response:

See comment 16 below. The information required to be submitted by February 27, 2004 includes information on the final reuse/disposition of processed materials 2004 and should be available for public review at our offices at that time.

No modification is required for the tentative waste discharge requirements pursuant to this comment.

Comment No. 16:

Regarding the soil in ART's Seminole treatment facility, has the board conducted a report(s) on contamination in the old building and when will the Board require testing the residual soil for lingering contamination?

Response:

Regional Board Order No. 95-131 pertaining to ARTs Seminole Avenue facility in the City of Lynwood includes provision F.5 and as indicated below that relates to the closure of the facility.

"Ninety days prior to cessation of storage and treatment at ART's facility, ART shall submit a technical report to the Regional Board describing the methods and controls to be used to ensure protection of water quality during final operations, and with any proposed

subsequent use of ART's facility. Such methods and controls shall comply with the forgoing waste discharge requirements. All work must be performed by or under the direction of a California registered civil engineer or certified engineering geologist."

On July 23, 2003 ART submitted "*Cessation And Relocation Of Soil Treatment Processing*" (Report) as required by provision No. F.5 of Regional Board Order No. 95-131. Regional Board staff reviewed the Report and approved of proposed measures to decommission the Facility in a letter dated January 15, 2004.

No modification is required for the tentative waste discharge requirements pursuant to this comment.

Comment No. 17:

Regarding ART's new treatment facility, where they apparently have been receiving contaminated soil without permits – why is the Board allowing this practice before a permit is granted and before the closure of the old facility?

Response:

See comment 8, above.

No modification is required for the tentative waste discharge requirements pursuant to this comment.

Comment No. 18:

I also understand that ART should not be allowed to conduct stabilization of metals and hydrocarbons. Prior to treatment, metal contaminated soil can be released into the environment. Stabilization should only be done by qualified facilities. Without a liner, the leachability of metals is far more toxic than hydrocarbons and therefore should be contained with proper remediation equipment. This should be made clear in any permit granted the company.

Response:

See comment 10 through 12, above.

No additional modifications are required for the tentative waste discharge requirements pursuant to this comment.

Comment No. 19:

It is my understanding that the Board is allowing ART to use "sealed concrete" to protect groundwater against contamination? The history behind using this method of protection against groundwater contamination and geological instability is inconsistent with regard to current regulatory requirements for secondary containment. The use of heavy equipment and thousands of tons of dirt piled high in their new facility will lead to cracks and eventually groundwater contamination. It is our understanding that most facilities of this type have a liner under the concrete to protect from groundwater contamination, including ARTs old facility. Why is the new facility not required to have even this basic level of protection when the old facility was required to have it.

Response:

There are no regulatory requirements for environmental containment systems for the protection of groundwater for thermal remediation facilities. Similarly, because all thermal remediation facilities in the Region are prohibited from accepting contaminated soils with free liquid secondary containment regulations are unwarranted. Prior engineering practice accepted by the Regional Board for all thermal remediation facilities was to incorporate a geomembrane liner. Regional Board staff are of the opinion that at all thermal remediation facilities the threat to groundwater contamination is limited and the waste discharge requirements for all thermal remediation facilities are being revised accordingly.

No modification has been made to the tentative waste discharge requirements pursuant to this comment.

Comment No. 20:

I am also concerned that ART is not being required to put monitoring wells or a liner under their concrete pad? Cutting corners may save ART money but won't prevent contamination of groundwater. Since shallow groundwater levels are fairly common in the area of ART's new facility this should be an issue of great concern.

Response:

Monitoring wells are not required of thermal remediation facilities in the Region because they are prohibited from accepting contaminated soils with free liquid. Also, as indicated in the response to comment 9 above, prolonged vadose monitoring of thermal remediation facilities in the Region indicates that there is no discernable threat to groundwater quality via a vadose pathway thus vadose zone monitoring is no longer be required at existing thermal remediation facilities in the Region.

No modification has been made to the tentative waste discharge requirements pursuant to this comment.

Comment No. 21:

Finally, I believe that you should immediately notify ART customers that they might be subject to legal liability if they continue to haul their contaminated soil to ART since the company does not appear to meet the qualifications for processing much of this contaminated materials.

Response:

Regional Board staff are not aware of practices at ART facilities that indicate that they "do not meet the qualifications for processing much of this contaminated materials". The notification suggested is unwarranted.

No modification is required for the tentative waste discharge requirements pursuant to this comment.

COMMENTS FROM THE URBAN ENVIRONMENTAL AFFAIRS COUNCIL:

Comment No. 22:

See letter from the Urban Environmental Affairs Council in the comment package (Tab 9.1.7).

Response

The Urban Environmental Affairs Council submitted a three page letter with extensive documentation detailing investigations of, or "Violations" issued against ART and associates by the South Coast Air Quality Management District, the Los Angeles County District Attorney, the Los Angeles County Sanitation Districts, and the California Highway Patrol. The Council also alleges improper activities regarding planning permits issued to ART by the City of Lynwood. The comments do not specifically address the tentative WDRs or comment on water quality concerns related to ART's practices thus no specific response other that inclusion of the submittal are included herein for Regional Board consideration.

No modification has been made to the tentative waste discharge requirements pursuant to this comment.